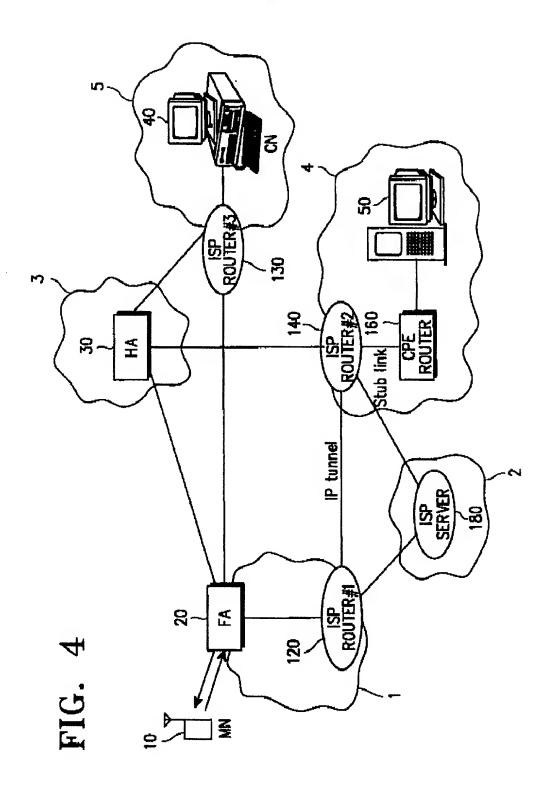


FIG. 3



567890123456789012345678901	RESERVED	VPN SERVER ADDRESS	TENSION FOR VPN SERVICE, USED IN REGISTRATION REQUEST MESSAGE
0 1 2 3 4 5 6 7 8	TYPE		NEW EXTENSION

FIG. 5

0 1 2 2 2 3 4 5 5 7 8 0 0 1 2 3 4 5 5 7 8 0 0 1 2 3 4 5 5 7 8 0 0 1 3 4 5 5 7 8 0 0 1 3 4 5 5 7 8 0 0 1 3	RESERVED		ICE		NEW EXTENSION FOR VPN SERVICE, USED IN REGISTRATION REPLY MESSAGE
	0 + 0 7 - 0	OPN-ID	SPECIFIC ADDRESS FOR VPN SERVICE	ISP EDGE ROUTER ADDRESS	R VPN SERVICE, I
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FIG. 6

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2 3 4 5 6 TYPE	2 6		8 9 0 1 2 3 4 5 6 7 RESERVED MOBILE NODE ADD CARE-OF-ADDR IDENTIFICATIO	8 9 0 1 2 3 4 5 6 7 8 RESERVED A A A A A A A A A	8 9 0 1 2 3 4 5 6 7 8 9 (RESERVED AUTHORISE MOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	8 9 0 1 2 3 4 5 6 7 8 9 0 1 8	8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 MOBILE NODE ADDRESS RESERVED	8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 RESERVED AUTHENTICATION MOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 8 8 9 0 1 2 3 4 5 8 9 0 1 2 3 4 5 8 9 0 1 2 3 4 5 8 9 0 1 2 3 4 5 9 9 0 1 2 3 4 5 9 9 0 1 2 3 4 5 9 9 0 1 2 3 4 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	RESERVED AUTHENTICATION LIFETIM RESERVED AUTHENTICATION LIFETIM MOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 RESERVED AUTHENTICATION LIFETIME MOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 RESERVED AUTHENTICATION LIFETIME MOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	1	7				
2 3 4 5 6 7 TYPE	5 6 7		9 0 1 2 3 4 5 6 7 RESERVED MOBILE NODE ADD CARE-OF-ADDR	9 0 1 2 3 4 5 6 7 8 RESERVED MOBILE NODE ADDRES CARE-OF-ADDRESS IDENTIFICATION	9 0 1 2 3 4 5 6 7 8 9 (RESERVED AUTHORIES ANDRESS CARE—OF—ADDRESS IDENTIFICATION	9 0 1 2 3 4 5 6 7 8 9 0 1 RESERVED AUTHEN MOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	9 0 1 2 3 4 5 6 7 8 9 0 1 2 RESERVED AUTHENTICA MOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 RESERVED AUTHENTICATION MOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 8 8 8 0 1 2 3 4 5 8 9 0 1 2 3 4 5 8 9 0 1 2 3 4 5 8 9 0 1 2 3 4 5 8 9 0 1 2 3 4 5 9 9 0 1 2 3 4 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 RESERVED AUTHENTICATION LIFETIME MOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 RESERVED AUTHENTICATION LIFETIME MOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 RESERVED AUTHENTICATION LIFETIME MOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	ဆ				
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2 3 4 5 6 7 8 9 0 TYPE RE	5 6 7 8 9 0	7 8 9 0 RE	WED WOBILE NODE ADD CARE-OF-ADDR IDENTIFICATIO	VED A S 6 7 B A WED A A SOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	WED AUTHORILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	VED AUTHEN VOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	WED AUTHENTICA WOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	WED AUTHENTICATION WOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	2 4 5 6 7 8 9 0 1 2 3 4 5 WED AUTHENTICATION LIFT WOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	WED AUTHENTICATION LIFETIM AUBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	VED AUTHENTICATION LIFETIME WOBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	2 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 WED AUTHENTICATION LIFETIME WOBILE NODE ADDRESS CARE—OF—ADDRESS IDENTIFICATION	3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 NED AUTHENTICATION LIFETIME AUGBILE NODE ADDRESS CARE-OF-ADDRESS IDENTIFICATION	7	SER	_		
2 3 4 5 6 7 8 9 0 1 2 TYPE RESER	5 6 7 8 9 0 1 2 RESER	7 8 9 0 1 2 RESER	4 5 6 7 IIILE NODE ADD IRE—OF—ADDR IDENTIFICATIO	4 5 6 7 8 A A A A	4 5 6 7 8 9 (AUTH IIILE NODE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 AUTHEN IILE NODE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 AUTHENTICA IILE NODE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 3 AUTHENTICATION INCE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 3 4 5 AUTHENTICATION LIFT INCE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 3 4 5 6 AUTHENTICATION LIFETIM IILE NODE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 3 4 5 6 7 A SILE NODE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 AUTHENTICATION LIFETIME IILE NODE ADDRESS IRE—OF—ADDRESS IDENTIFICATION	4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 AUTHENTICATION LIFETIME AUTHENTICATION LIFETIME AUTHENTICATION LIFETIME AUTHENTICATION IDENTIFICATION IDENTIFICATION AUTHENTICATION IDENTIFICATION AUTHENTICATION IDENTIFICATION IDENTIFIC	53	Æ	¥6	ਹੋ	
2 3 4 5 6 7 8 9 0 1 2 3 TYPE RESERVE	1 5 6 7 8 9 0 1 2 3 RESERVEL MOE	7 8 9 0 1 2 3 RESERVEL MOE	S 6 7 NODE ADD OF-ADDR	5 6 7 8 NODE ADDRES OF -ADDRESS NTIFICATION	S 6 7 8 9 (AUTHORN ADDRESS OF—ADDRESS NTHICATION	5 6 7 8 9 0 1 NODE ADDRESS OF—ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 AUTHENTICA NODE ADDRESS OF—ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 3 AUTHENTICATION NODE ADDRESS OF—ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 3 4 5 AUTHENTICATION LIFT NODE ADDRESS -OF-ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 3 4 5 6 AUTHENTICATION LIFETIM NODE ADDRESS OF—ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 3 4 5 6 7 AUTHENTICATION LIFETIME NODE ADDRESS -OF-ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 AUTHENTICATION LIFETIME NODE ADDRESS OF—ADDRESS NTIFICATION	5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 AUTHENTICATION LIFETIME NODE ADDRESS OF—ADDRESS NTIFICATION	4	_	当	E	<u>E</u>
2 3 4 5 6 7 8 9 0 1 2 3 4 TYPE RESERVED MOBILE CARE	1 2 3 4 RESERVED MOBILE CARE	7 8 9 0 1 2 3 4 RESERVED MOBILE CARE	6 7 DE ADD	6 7 B OE ADDRES -ADDRESS FICATION	6 7 8 9 (ADDRESS ADDRESS FICATION	6 7 8 9 0 1 AUTHEN DE ADDRESS -ADDRESS FICATION	6 7 8 9 0 1 2 AUTHENTICA DE ADDRESS -ADDRESS FICATION	6 7 8 9 0 1 2 3 AUTHENTICATION ADDRESS -ADDRESS FICATION	6 7 8 9 0 1 2 3 4 5 AUTHENTICATION LIFT DE ADDRESSADDRESS FICATION	6 7 8 9 0 1 2 3 4 5 6 AUTHENTICATION LIFETIM DE ADDRESSADDRESS FICATION	6 7 8 9 0 1 2 3 4 5 6 7 AUTHENTICATION LIFETIME DE ADDRESSADDRESS FICATION	6 7 8 9 0 1 2 3 4 5 6 7 8 9 AUTHENTICATION LIFETIME DE ADDRESSADDRESS FICATION	6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 AUTHENTICATION LIFETIME DE ADDRESSADDRESS FICATION	5		NO	누	
2 3 4 5 6 7 8 9 0 1 2 3 4 5 TYPE RESERVED MOBILE NO CARE-OF IDENTIL	1 2 3 4 5 RESERVED MOBILE NO CARE—OF IDENTIL	7 8 9 0 1 2 3 4 5 RESERVED MOBILE NO CARE-OF		7 B ADDRES DDRESS	AUTHADDRESS DORESS	7 B 9 0 1 AUTHEN ADDRESS DORESS	7 8 9 0 1 2 AUTHENTICA ADDRESS DORESS	7 8 9 0 1 2 3 AUTHENTICATION ADDRESS THON	7 8 9 0 1 2 3 4 5 AUTHENTICATION LIFT ADDRESS THON	7 8 9 0 1 2 3 4 5 6 AUTHENTICATION LIFETIM ADDRESS TTON	7 8 9 0 1 2 3 4 5 6 7 AUTHENTICATION LIFETIME ADDRESS TTON	7 8 9 0 1 2 3 4 5 6 7 8 9 AUTHENTICATION LIFETIME ADDRESS TTON	7 8 9 0 1 2 3 4 5 6 7 8 9 0 AUTHENTICATION LIFETIME ADDRESS TION	9		DE	A	S
2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 TYPE RESERVED MOBILE NODE CARE-OF-AI IDENTIFICA	1 2 3 4 5 6	7 8 9 0 1 2 3 4 5 6 RESERVED MOBILE NODE CARE-OF-AI IDENTIFICA		B A B S S	AUTHESS ESS	AUTHENTIRESS ESS	AUTHENTICA AUTHENTICA IRESS ESS	AUTHENTICATION RESS ESS	AUTHENTICATION LIFE RESS ESS	AUTHENTICATION LIFETIM RESS ESS	AUTHENTICATION LIFETIME RESS ESS	8 9 0 1 2 3 4 5 6 7 8 9 AUTHENTICATION LIFETIME IRESS ESS	8 9 0 1 2 3 4 5 6 7 8 9 0 AUTHENTICATION LIFETIME IRESS ESS	7		ADD	DDR	0L3

AUTHENTICATION REQUEST MESSAGE FOR MOBILE NODE(HA--ISP EDGE ROUTER 1)

FIG. 7

1 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1	TYPE CODE VPN LIFETIME	MOBILE NODE ADDRESS	CARE OF ADDRESS	ISP EDGE ROUTER A ADDRESS	IDENTIFICATION	AUTHENTICATION REQUEST MESSAGE (ISP EDGE ROUTER 1ISP SERVER)
1034	TYPE					AU
Q C	<u>-</u>	<u>L</u>	<u></u>			_

FIG. 8

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1	YPE CODE VPN LIFETIME	QI-NdA	SRECIFIC ADDRESS FOR VPN SERVICE	ISP EDGE ROUTER B ADDRESS	IDENTIFICATION	AUTHENTICATION REPLY MESSAGE (ISP EDGE ROUTER 1-HA)
0 1 2 3 4 5 6	TYPE					AL

FIG. 9

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AUTHENTICATION REPLY MESSAGE (ISP SERVER -- ISP EDGE ROUTER 1)

FIG. 10

1 1567890123456789012345678901	CODE VPN LIFETIME	MOBILE NODE ADDRESS	CARE-OF-ADDRESS	IDENTIFICATION
7	TYPE			

AUTHENTICATION REPLY MESSAGE (ISP EDGE ROUTER 2- ISP EDGE ROUTER 1) FIG. 11

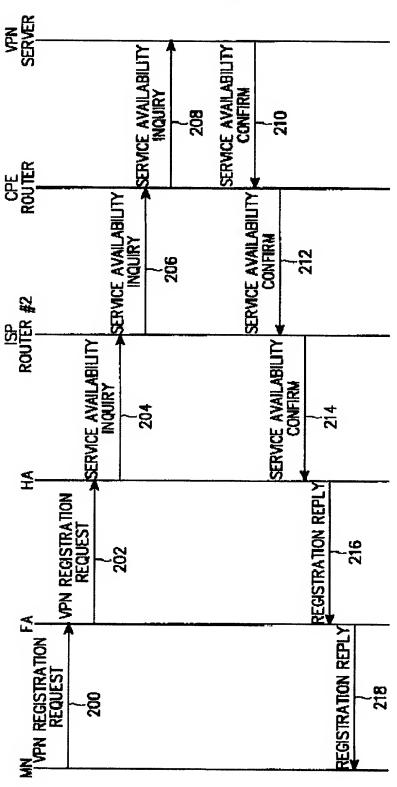


FIG. 12

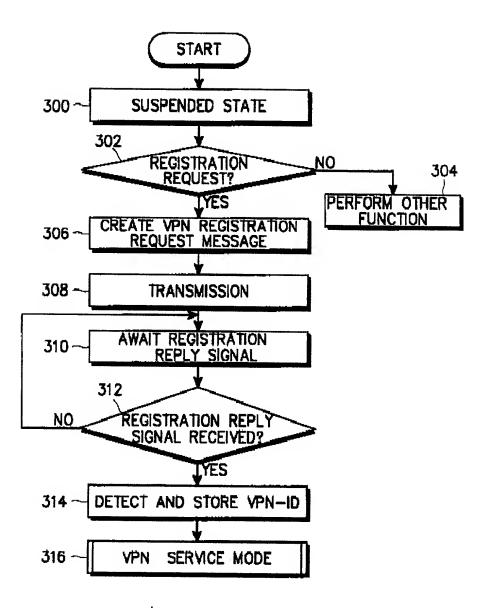


FIG. 13

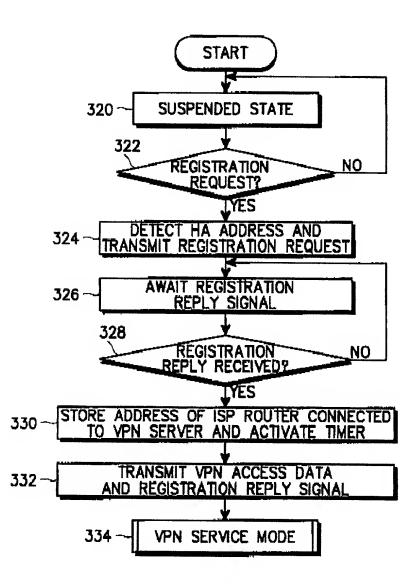


FIG. 14

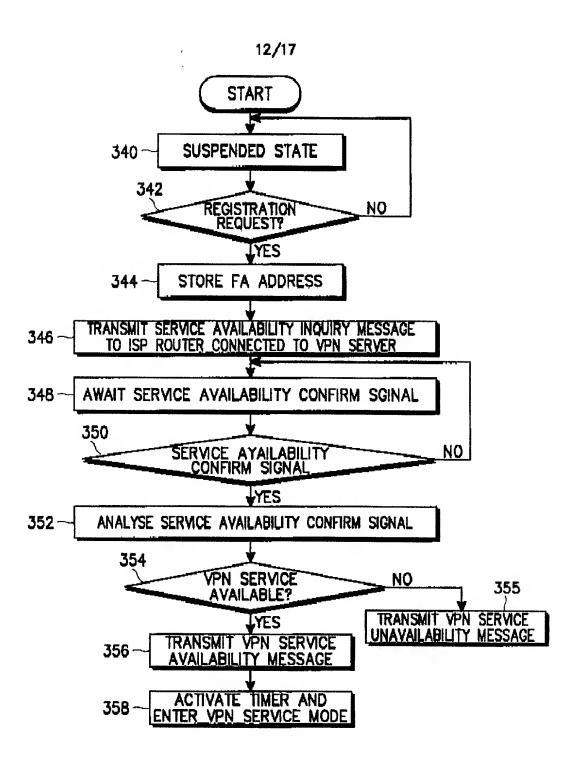


FIG. 15

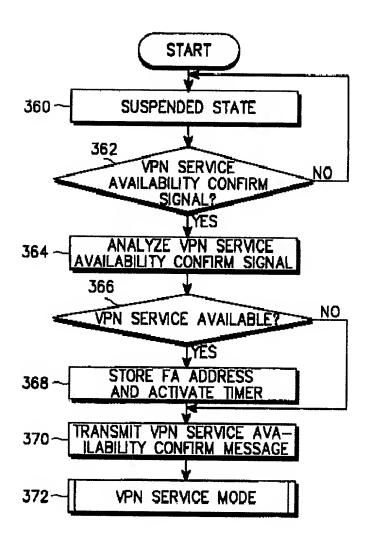
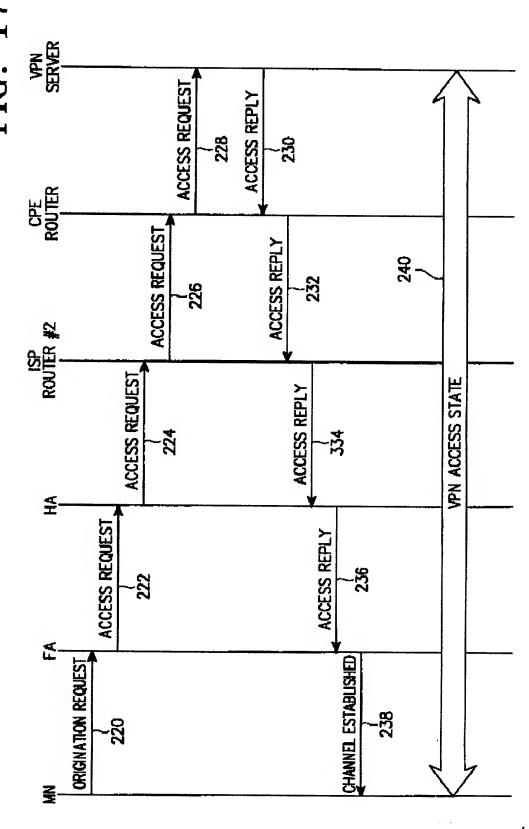


FIG. 16





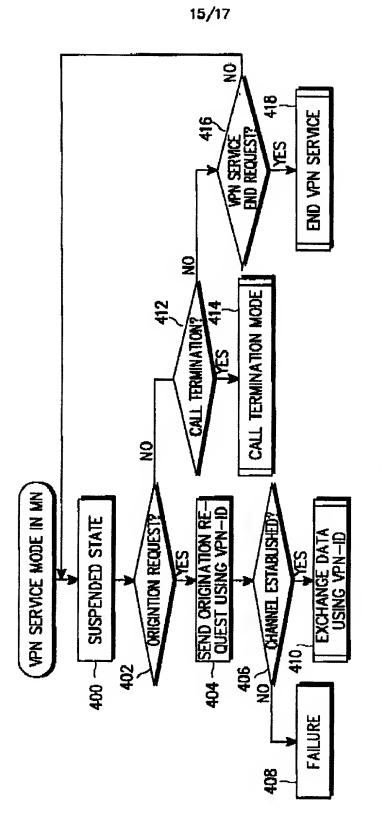


FIG. 18

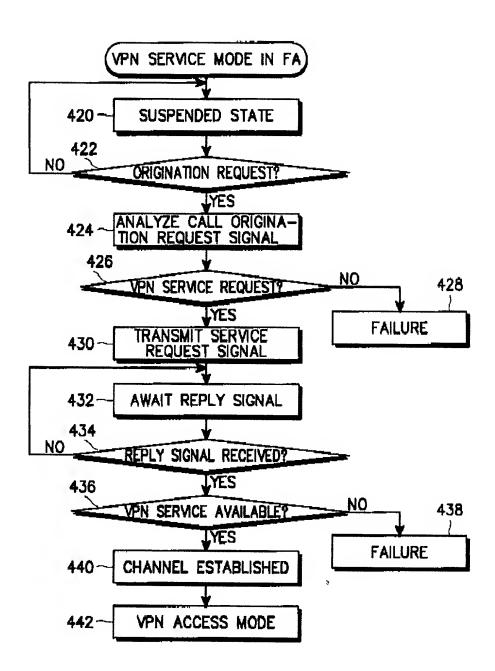


FIG. 19

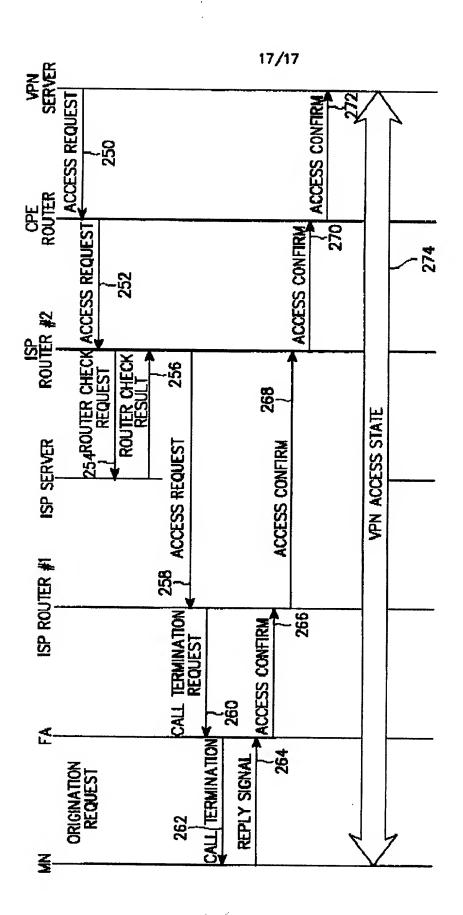


FIG. 20